

04/03/14 Agenda

- Remediation Packet for Unit 7 is on line
 - Due 4/7
- Review Homework (p8)
 - Worksheet 8.5 - Factoring
- Polynomials - day 9 - Factoring Trinomials
- Homework
 - Worksheet 6 - Factoring
- **Mini-Quiz tomorrow !!!**

Warm Up



Put your name on a slip of paper.

Put each equation in standard form,
then state the degree (the degree of the highest monomial)

$$7v^3 - v + 17 + 16v^4 - 2$$

Degree 4

$$16v^4 + 7v^3 - v + 15$$

$$2k^4 - 8k - 6 + 4k^2$$

Degree 4

$$2k^4 + 4k^2 - 8k - 6$$

2

Factor:

$$3.) \quad m^2 + m - 90 = (m-9)(m+10)$$

$a=1$
 $b=1$
 $c=-90$

$\begin{array}{r|l} -90 & \\ \hline a \cdot c & \\ \hline \end{array}$

$-9, 10 = 1$
 $9, -10 = -1$

$m^2 + 10m - 9m - 90$
 $m^2 + m - 90$

$$\underline{Ax^2 + Bx + C}$$

$$4.) \quad n^2 + 4n - 12$$

$a=1$
 $b=4$
 $c=-12$

$\begin{array}{r|l} -12 & \\ \hline a \cdot c & \\ \hline \end{array}$

$-1, 12 = 11$
 $-2, 6 = 4$
 $-3, 4 = 1$

$(n-2)(n+6)$
 $n^2 + 6n - 2n - 12$
 $n^2 + 4n - 12$

Factor:

$$5.) \quad \underline{2}n^2 + \underline{6}n - \underline{108}$$

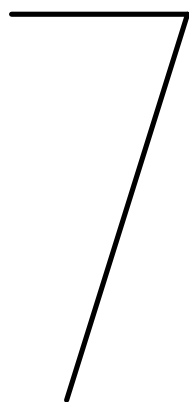
$a = 1$
 $b = 3$
 $c = -54$

$a \cdot c = -54$
 $-1, 54$
 $-2, 27$
 $-3, 18$
 $-6, 9$

$$2(n^2 + 3n - 54)$$

$$2(n - 6)(n + 9)$$

$$6.) \quad b^2 + 16b + 64$$



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Factor:

$$5.) \quad 2n^2 + 6n - 108 = 2(n^2 + 3n - 54)$$

$$(2)(n)(n)$$

$$6.) \quad b^2 + 16b + 64$$

$$a = 1$$

$$b = 16$$

$$c = 64$$

	a.c	
1	64	= 65
2	32	= 34
4	16	= 20
8	8	= 16

$$16$$

$$\begin{aligned} & \underline{Ax^2 + Bx + C} \\ & (b+8)(b+8) \\ & b^2 + 8b + 8b + 64 \\ & b^2 + 16b + 64 \end{aligned}$$

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Factor:

7.) $5n^2 + 10n + 20$

$a=1$
 $b=2$
 $c=4$

	4	
1, 4	= 5	
2, 2	= 4	
-1, -4	= -5	2
-2, -2	= -4	

$5(n^2 + 2n + 4)$

PRIME

8.) $n^2 - 10n + 9 = (n-1)(n-9)$

$a=1$
 $b=-10$
 $c=9$

	9	
1, 9	= 10	
3, 3	= 6	-10
-1, -9	= -10	

(Note: In the original image, the pair -1, -9 is circled in blue, and an arrow points from it to the final factored form.)

Box Method: Try these:

$$(x-3)(x+4)$$

	x	-3
x	x^2	$-3x$
$+4$	$+4x$	-12

(Note: A blue arrow points from $-3x$ to $+4x$)

Answer: $x^2 + 1x - 12$

$$(2x+5)(x-2)$$

	$2x$	$+5$
x	$2x^2$	$+5x$
-2	$-4x$	-10

(Note: A blue arrow points from $+5x$ to $-4x$)

Answer: $2x^2 + 1x - 10$

What if you were given a completed box?
Can you work backwards to find the original problem?

	x	$+4$
x	x^2	$4x$
$+2$	$2x$	8

Answer: $(x+4)(x+2)$

	x	-3
x	x^2	$-3x$
-4	$-4x$	12

Answer: $(x-3)(x-4)$

:

$$x^2 + 6x + 5$$

$$\begin{array}{r} \text{5} \\ \text{ac} \\ 1, 5 \end{array} \Bigg| 6$$

	x	$+1$
x	x^2	$+1x$
$+5$	$+5x$	$+5$

$$(x+1)(x+5)$$

$$x^2 - 4x - 12$$

$$\begin{array}{r} -12 \\ -1, 12 \\ 1, -12 \\ \textcircled{2, -6} \\ -2, 6 \\ 3, -4 \end{array} \Bigg|$$

	x	$+2$
x	x^2	$+2x$
-6	$-6x$	-12

$$(x+2)(x-6)$$

$$x^2 + 4x - 21$$

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What if you were given the final answer only and had to organize it into the boxes?

$$x^2 + 6x + 5$$

$\begin{array}{r} 5 \\ \hline 1 \quad 5 = 6 \end{array}$

	x	$+1$
x	x^2	$+1x$
$+5$	$+5x$	$+5$

$(x+1)(x+5)$

$$x^2 - 4x - 12$$

	x	$+2$
x	x^2	$+2x$
-6	$-6x$	-12

$$x^2 + 4x - 21$$

$\begin{array}{r} -21 \\ \hline -1 \quad 21 \quad +20 \\ -3 \quad 7 \quad +4 \\ 1 \quad -21 \quad -20 \\ 3 \quad -7 \quad -4 \end{array}$

	x	-3
x	x^2	
$+7$		-21